

1 68. Using this alternative analysis, the special access rate of return drops by slightly less
2 than 6% for 2001 (and less than 3% for 2000). Nevertheless, the RBOCs still enjoyed rates of
3 return on special access services above 30% which: *by my conventional standard* — and
4 especially during the current economic downturn — is indicative of supracompetitive earnings
5 arising through the RBOCs' exercise of market power. While BellSouth, Qwest and Kahn/
6 Taylor may attempt to muddy the water by raising the "DSL issue," even the "worst case
7 scenario" — where all DSL revenues are included and all DSL costs are excluded — cannot
8 "explain" the persistently excessive rates of return that prevail with respect to special access
9 services.¹¹⁸

10
11 69. Significantly, while the RBOCs may *claim* that DSL investments and expenses are not
12 being allocated to special access, recent investment trends tend to suggest otherwise. As the
13 following table confirms, between 1996 and 2001, RBOC (including GTE) special access invest-
14 ments grew from \$5.7-billion to more than \$12.2-billion. By comparison, most other categories
15 of RBOC interstate investment remained largely unchanged over the corresponding time frame,
16 and intrastate investments actually *decreased* by nearly \$10-billion. Given the rapid growth of
17 DSL and the high capital costs that have been ascribed to its deployment, it is difficult to
18 imagine any other explanation for the more than doubling of special access investment while all
19 other categories remained essentially the same or even decreased, if DSL is *not* included within

118. In several other proceedings before the Commission, the RBOCs have sought to portray the market for DSL as so highly competitive as to justify regulatory forbearance, if not outright deregulation. See, e.g. *SBC Petition for Expedited Ruling that it is Non-Dominant in its Provision of Advanced Services and for Forbearance from Dominant Carrier Regulation of Those Services*, CC Docket No. 01-337, SBC Petition, October 3, 2001. Their experts have suggested that the highly competitive nature of the "high-speed Internet access market," wherein DSL competes with cable modem services, has placed the RBOCs in a non-dominant position and, in fact, has **not** even permitted them to recover the costs of providing ADSL services, which are put as high as \$86 per month. See, Declaration of Robert W. Crandall and J. Gregory Sidak, filed as Attachment A in the above petition, at 51. It would seem that, in the various "broadband" proceedings, DSL is actually being provided at a loss, whereas in the instant docket DSL is portrayed as being so enormously profitable that it is pushing up special access returns to supracompetitive levels. At the very least, these DSL stories *dujour* demand careful scrutiny.

1 those special access investments. And, of course, if DSL costs *are* being included in the **ARMIS**
2 data for special access, then it *is* certainly appropriate to also include corresponding **DSL**
3 revenues, as had been done in the Friedlander declaration filed with AT&T's Petition."
3 Accordingly, the figures provided by AT&T for special access rates of return — which in some
5 cases exceeded 50% — have in no sense been impeached by the **RBOC** experts.

6
7 70. *Mismatch between allocation of expenses and revenues for marketing.* Verizon claims
8 that "marketing expenses are allocated across all access categories, but that the associated
9 revenues are recovered from common line and special access."¹²⁰ This claim is unfounded. Prior
10 to price cap regulation, marketing expenses were allocated to and recovered from all interstate
11 services in proportion to the investments assigned by the Part 69 cost allocation rules. The
12 Commission's May 1997 *Access Reform Order* retained the assignment of marketing costs to
13 special access and interexchange services that are marketed to retail customers, but removed
14 marketing from switched access elements (by reducing the price cap indices for the common
15 line, traffic sensitive, and trunking baskets) sold exclusively on a wholesale basis."¹²¹ Neither this
16 change, nor any subsequent Commission action, has diminished the level of marketing expenses
17 recovered from special access rates.¹²²

119. Declaration of Stephen Friedlander on Behalf of AT&T Corp., RM 10593, October 15, 2002.

120. Verizon Comments, at 22.

121. *Access Charge Reform*, First Report and Order, FCC 97-158, released May 16, 1997, para. 323.

122. As another example of a category-specific ARMIS cost-revenue mismatch, Verizon mentions that "amounts collected for universal service recovery are booked as common line revenues, while amounts due to **USAC** [Universal Service Administrative Corporation] are recorded in the interexchange category." Verizon Comments at 22, fn. 50. However, neither the costs nor the revenues in question have any impact upon special access and, thus, Verizon's example is completely irrelevant to the matter at hand.

1 71. *Pocket switching costs not in special access.* Qwest claims that packet switching costs
2 incurred to provide certain special access services (Frame Relay, **ATM**) are assigned to the
3 general switching category, and not to special access.¹²³ However, Qwest does not quantify the
4 amount of costs that it claims are misallocated. Moreover, Qwest neither claims nor makes any
5 effort to establish in its comments that revenues associated with the switching functions used to
6 provide frame relay and **ATM** services are not also being reflected in one of the several different
7 switching *revenue* accounts identified in Part 32. Put simply, Qwest has failed to demonstrate
8 any mismatch, inasmuch as it has focused solely upon the assignment of *costs* and not addressed
9 the treatment of the corresponding revenues. The Commission thus has no basis to evaluate the
10 validity or importance of criticisms such as this one, when the RBOCs, which have by far the
11 best access to the underlying information, present only their contentions but with no facts or
12 specifics to back them up.

13
14 72. *Secondary and tertiary expenses:* Finally, Qwest complains that because carriers are
15 required to assign secondary and tertiary expenses in proportion to the primary investments
16 assigned to a category, any potential underallocation of primary investments to special access
17 would be exacerbatcd. However, this is merely another theoretical argument. As discussed
18 above, the RBOCs have simply not established that primary investments are not being properly
19 assigned to the special access category. Moreover, the magnitude of these secondary and tertiary
20 expenses is simply not large enough to offset to any significant extent the RBOCs' substantial
21 overearning for the special access services.

22
23 73. It is also worth recalling that **ARMIS** costs are embedded costs, which are generally
24 higher than forward-looking incremental costs (i.e., TELRIC). If forward-looking costs of

123. Qwest Comments, at 12

1 special access were substituted for the embedded costs from ARMIS, the resulting rates of return
2 on forward-looking investment levels would be even higher.

3
4 74. In fact, while the RBOCs' service examples fail to show that ARMIS underallocates
5 costs to special access services (or overstates the appropriate revenues), historical experience and
6 costing trends actually support precisely the opposite conclusion. The RBOCs have a poor track
7 record for maintaining accurate records of their network investments, particularly as to the
8 removal of plant no longer in service. The Commission's 1999 audit reports of RBOCs'
9 continuing property records found that these carriers could not account for approximately \$5-
10 billion in central office equipment that remained on their books.¹²⁴ If similar record-keeping
11 practices exist with respect to special access investments, it is likely that the RBOCs' regulatory
12 books of account also include costs for facilities that are no longer in service. The continuing
13 property records audits also demonstrated that the nature of the record-keeping errors was
14 consistently biased toward *including* items that should have been excluded, rather than the other
15 way around. Accordingly, it is far more likely that the embedded investment costs recorded in
16 ARMIS represent an *overstatement* of actual plant in service, thereby further contributing to the
17 highly conservative character of the Friedlander ROR figures.

18
19 75. The consistent upward trend in the RBOCs' rates of return for special access also tends
20 to belie their objections regarding the reliability of the ARMIS data. Even if there are allocation
21 errors in AKMIS, the RBOCs have offered no evidence to suggest that whatever misallocations
22 might actually be present, if any, are anything other than consistent from year to year. The
23 presence of any systematic bias in the data may impact the accuracy of individual data points,

124. 1998 Biennial Regulatory Review - Review of Depreciation Requirements for Incumbent Local Exchange Carriers; Ameritech Corporation Telephone Operating Companies' Continuing Property Records Audit, et. al., GTE Telephone Operating Companies Release of Information Obtained During Joint Audit, CC Dockets 98-137 and 99-117, AAD File No. 98-26, released April 3, 2000, FCC 00-119, at para. 15.

1 but as long as the misallocation bias is systematic over time, the trends revealed through an
2 examination of multiple years' results will still provide an accurate picture of ongoing market
3 dynamics. Although there is inevitably some subjectivity involved in allocating costs that cannot
4 be directly assigned, the methodology itself, and hence the resulting allocations, do not fluctuate
5 significantly from year to year. Thus, if competition for special access services were actually
6 constraining prices as the RBOCs contend, the ROR for special access would tend to decrease
7 over time. But in fact it is actually *increasing*, suggesting not only that price-constraining
8 competition is not present, but that the extent of ongoing KROC market power with respect to
9 these services is growing.

10
11 76. Finally, suddenly *relying* upon **ARMIS** data, Kahn and Taylor have contended that the
12 average revenue per line for special access has actually been decreasing "by more than 1% per
13 year" during the 1996-2001 period. My own review of the data suggests errors in the Kahn/
14 Taylor analysis. Based upon replicable ARMIS data, the average revenue per line, decreased by
15 only two-tenths of one percent over the entire period (a reduction in average annual revenue per
16 line of only \$0.33). **As** I will discuss in more detail below, use of an average annual revenue per
17 line calculated using DS-O equivalents is seriously flawed, but even accepting the flawed Kahn/
18 Taylor evidence, the data proves, rather than disproves AT&T's allegations. **At** page 16 of the
19 Kahn/Taylor declaration, a figure appears entitled "KROC Special Access Revenue per Special
20 Access Line". Even a cursory review **of** that Figure reveals declining revenue per line amounts
21 occurred during the period 1997-2000 — when the special access rates were still generally
22 subject to price caps and the x-factor-driven annual reductions associated therewith — and that
23 there has been a total reversal **of** that trend (recouping virtually all of the reductions during the
24 prior four years) in the RBOCs' revenues for 2001 — the first full year during which any of the
25 RBOCs had pricing flexibility for Special Access Services."

125. BellSouth, the first RROC to apply for and be granted pricing flexibility, approved
(continued...)

77. Moreover, assuming (as Kahn and Taylor do) for sake of argument that the analysis of an average "revenue" per line based upon DS-0 equivalents has any validity, then one should be able to examine the average "investment" and average "expense" per line as well. As Table 14 below reveals, during the 1996 to 2001 period in which average revenue per line declined by only two tenths of a percent, average investment and average expense per line each declined by almost half. Review of those "average" per line results for those three categories more than proves AT&T's initial point. During the 1996 to 2001 period, while the average revenue per line dropped only \$0.33 from \$157.00 to \$156.67, the average expense per line dropped by \$59.78, from \$123.33 to \$63.55, and the average investment per line dropped by \$103.45, from \$257.50 to \$154.05. Overall, the results demonstrate that by 2001, the net return, per US-0 equivalent access line had climbed by more than 185%, from the \$20.79 of 1996, to \$57.76.

Table 14							
Interstate Special Access Costs and Revenues RBOC Totals (Including GTE)							
	1996	1997	1998	1999	2000	2001	Change 1996-2001
(a) Revenues(000)	\$3,464,545	\$4,312,543	\$5,536,133	\$7,141,094	\$9,591,843	\$12,450,913	259.4%
(b) Expenses (000)	\$2,721,599	\$3,275,870	\$3,404,629	\$3,988,276	\$4,780,293	\$5,050,329	85.6%
(c) Net investment (000)	\$5,682,447	\$6,373,074	\$7,149,582	\$8,440,569	\$10,462,621	\$12,242,494	115.4%
(d) Net return	\$445,552	817,253	\$1,279,675	\$1,906,740	\$2,967,064	\$4,590,506	930.3%
(e) Rate of Return (d/c)	7.8%	9.7%	17.9%	22.6%	28.4%	37.5%	378.2%
(f) Special Access Lines	22,067,774	26,260,133	33,999,156	48,708,169	65,451,767	79,470,270	260.1%
(g) Revenues per line (a/f)	\$157.00	\$164.22	\$162.83	\$146.61	\$146.55	\$156.67	-0.2%
(h) Expenses per line (b/f)	\$123.33	\$124.75	\$100.14	\$81.88	\$73.04	\$63.55	-48.5%
(i) Investment per line (c/f)	\$257.50	\$242.69	\$210.29	\$173.29	\$159.85	\$154.05	-40.2%
(j) Net return per line (d/f)	\$20.19	\$23.51	\$37.64	\$39.15	\$45.33	\$57.76	186.1%
<u>Sources of data:</u>							
Financial data from ARMIS 43-01, Column S, Rows 1090, 1190, 1910, 1915, and 1920.							
Lines are counted in terms of voice-grade equivalents, from ARMIS 43-08, row 910, columns K and L.							

125. (...continued)
authority at the end of 2000 BellSouth Petition for Pricing Flexibility for Special Access and Dedicated Transport Services, CCB/CPD No. 00-20, Memorandum Opinion and Order, 15 FCC Rcd 24588. (Dec. 15, 2000)

1 78. Moreover, translating ARMIS data into DS-0 equivalent lines, as Kahn and Taylor have
2 done, results in a flawed analysis. It is highly likely that the higher-capacity special access
3 services, at the DS-3 and OCn levels, have experienced disproportionately greater growth than
4 low-capacity DS-0 and DS-1 services. Since the effective price per DS-0 equivalent channel is
5 lower in these higher capacity services, their likely disproportionate growth readily explains the
6 apparent drop in DS-0 equivalent price levels (revenue per line). The more appropriate
7 comparison, of course, is a like-for-like price change for the *same* capacity service. And as
8 Tables 1 through 4 above clearly demonstrate, those prices in areas subject to Phase II pricing
9 flexibility have been on the rise over the period since pricing flexibility became effective.

10
11 Performance **data** reported under ARMIS **shows** continuing problems in special access
12 service quality.
13

14 79. Finally, in their declaration, Kahn and Taylor take issue with AT&T's observation that
15 the RBOCs are not being constrained by competition to improve the quality of their special
16 access services provisioning.¹²⁶ In particular, they claim that ARMIS data show a steady
17 improvement in RBOC special access service provisioning between 1996 and 2001. Kahn and
18 Taylor's analysis appears to be based on trouble reports per voice grade equivalent line, which
19 means that the successful provisioning of an order involving one OCn circuit offsets many
20 unsuccessful provisioning of lower bandwidth special access lines. A more realistic picture can
21 be obtained by looking at trouble reports for special access service based on the "total number of
22 orders or circuits," as shown in ARMIS report 43-05. When these data is analyzed, the picture
23 of consistent improvement presented by Kahn and Taylor evaporates. As shown in the attached
24 table (Attachment 2 to this Declaration), some RBOCs have done better than others. However,
25 Ameritech, which reports by far the best performance, reports an anomalously high number of
26 "orders or circuits" for the 2000 to 2001 period (three to four times as many as in the four prior

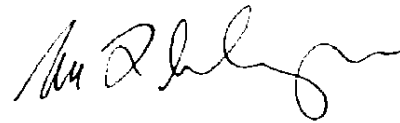
¹²⁶ Kahn/Taylor Decl., at 16-17.

1 years), which could account, at least in part, for the apparent improvement in its trouble report
2 percentages. Without these recent Ameritech numbers: RBOC trouble reports as a percentage of
3 orders or circuits rose substantially from 1998 to 2001. In any event, even a consistent record of
4 having trouble reports on more than half of all orders is hardly a commendable performance and
5 is consistent with the conclusion presented by Ordoover and Willig that the **RBOCs** are not
6 constrained by competitive forces with respect to their service quality for special access services.

7

1 The foregoing statements are true and corr the best of my knowledge, information and
2 belief.

3
4
5
6
7



LEE L. SELWYN

Attachment ■

Statement of Qualifications

Statement of Qualifications

DR. LEE L. SELWYN

Dr. Lee L. Selwyn has been actively involved in the telecommunications field for more than twenty-five years, and is an internationally recognized authority on telecommunications regulation, economics and public policy. Dr. Selwyn founded the firm of Economics and Technology, Inc. in 1972, and has served as its President since that date. He received his Ph.D. degree from the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology. He also holds a Master of Science degree in Industrial Management from MIT and a Bachelor of Arts degree with honors in Economics from Queens College of the City University of New York.

Dr. Selwyn has testified as an expert on rate design, service cost analysis, form of regulation, and other telecommunications policy issues in telecommunications regulatory proceedings before some forty state commissions, the Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission, among others. He has appeared as a witness on behalf of commercial organizations, non-profit institutions, as well as local, state and federal government authorities responsible for telecommunications regulation and consumer advocacy.

He has served or is now serving as a consultant to numerous state utilities commissions including those in Arizona, Minnesota, Kansas, Kentucky, the District of Columbia, Connecticut, California, Delaware, Maine, Massachusetts, New Hampshire, Vermont, New Mexico, Wisconsin and Washington State, the Office of Telecommunications Policy (Executive Office of the President), the National Telecommunications and Information Administration, the Federal Communications Commission, the Canadian Radio-television and Telecommunications Commission, the United Kingdom Office of Telecommunications, and the Secretaria de Comunicaciones y Transportes of the Republic of Mexico. He has also served as an advisor on telecommunications regulatory matters to the International Communications Association and the Ad Hoc Telecommunications Users Committee, as well as to a number of major corporate telecommunications users, information services providers, paging and cellular carriers, and specialized access services carriers.

Dr. Selwyn has presented testimony as an invited witness before the U.S. House of Representatives Subcommittee on Telecommunications, Consumer Protection and Finance and before the U.S. Senate Judiciary Committee, on subjects dealing with restructuring and deregulation of portions of the telecommunications industry.

In 1970, he was awarded a Post-Doctoral Research Grant in Public Utility Economics under a program sponsored by the American Telephone and Telegraph Company, to conduct research on the economic effects of telephone rate structures upon the computer time sharing industry. This work was conducted at Harvard University's Program on Technology and Society, where he was appointed as a Research Associate. Dr. Selwyn was also a member of the faculty at the College of Business Administration at Boston University from 1968 until 1973, where he taught courses in economics, finance and management information systems.

Dr. Selwyn has published numerous papers and articles in professional and trade journals on the subject of telecommunications service regulation, cost methodology, rate design and pricing policy. These have included:

"Taxes, Corporate Financial Policy and Return to Investors"

National Tax Journal, Vol. XX, No.4, December 1967.

"Pricing Telephone Terminal Equipment Under Competition"

Public Utilities Fortnightly, December 8, 1977.

"Deregulation, Competition, and Regulatory Responsibility in the Telecommunications Industry"

Presented at the 1979 Rate Symposium on Problems of Regulated Industries - Sponsored by: The American University, Foster Associates, Inc., Missouri Public Service Commission, University of Missouri-Columbia. Kansas City, MO, February 11 - 14, 1979.

"Sifting Out the Economic Costs of Terminal Equipment Services"

Telephone Engineer and Management, October 15, 1979.

"Usage-Sensitive Pricing" (with G. F. Borton)

(a three part series)

Telephony, January 7, 28, February 11, 1980.

"Perspectives on Usage-Sensitive Pricing"

Public Utilities Fortnightly, May 7, 1981

"Diversification, Deregulation, and Increased Uncertainty in the Public Utility Industries"

Comments Presented at the Thirteenth Annual Conference of the Institute of Public Utilities, Williamsburg, VA - December 14 - 16, 1981.

"Local Telephone Pricing: Is There a Better Way?; The Costs of LMS Exceed its Benefits: a Report on Recent U.S. Experience."

Proceedings of a conference held at Montreal, Quebec - Sponsored by Canadian Radio-Television and Telecommunications Commission and The Centre for the Study of Regulated Industries, McGill University, May 2 - 4, 1984.

"Long-Run Regulation of AT&T: A Key Element of A Competitive Telecommunications Policy"

Telematics, August 1984.

"Is Equal Access an Adequate Justification for Removing Restrictions on BOC Diversification?"

Presented at the Institute of Public Utilities Eighteenth Annual Conference, Williamsburg, VA - December 8 - 10, 1986.

"Market Power and Competition Under an Equal Access Environment"

Presented at the Sixteenth Annual Conference, "Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation"

Institute of Public Utilities, Michigan State University, Williamsburg, VA - December 3 - 5, 1987.

"Contestable Markets: Theory vs. Fact"

Presented at the Conference on Current Issues in Telephone Regulations: Dominance and Cost Allocation in Interexchange Markets - Center for Legal and Regulatory Studies Department of Management Science and Information Systems - Graduate School of Business, University of Texas at Austin, October 5, 1987.

"The Sources and Exercise of Market Power in the Market for Interexchange Telecommunications Services"

Presented at the Nineteenth Annual Conference - "Alternatives to Traditional Regulation: Options for Reform" - Institute of Public Utilities, Michigan State University, Williamsburg, VA, December, 1987.

"Assessing Market Power and Competition in The Telecommunications Industry Toward an Empirical Foundation for Regulatory Reform"

Federal Communications Law Journal, Vol. 40 Nuni. 2, April 1988.

"A Perspective on Price Caps as a Substitute for Traditional Revenue Requirements Regulation"

Presented at the Twentieth Annual Conference - "New Regulatory Concepts, Issues and Controversies" - Institute of Public Utilities, Michigan State University, Williamsburg, VA, December, 1988.

"The Sustainability of Competition in Light of New Technologies" (with D. N. Townsend and P. D. Kravtin)

Presented at the Twentieth Annual Conference - Institute of Public Utilities Michigan State University, Williamsburg, VA, December, 1988.

"Adapting Telecom Regulation to Industry Change: Promoting Development Without Compromising Ratepayer Protection" (with S. C. Lundquist)

IEEE Communications Magazine, January, 1989.

“The Role of Cost Based Pricing of Telecommunications Services in the Age of Technology and Coinpetition”

Presented at National Regulatory Research Institute Conference, Seattle, July 20, 1990.

“A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network” (with Patricia D. Kravtin and Paul S. Keller)

Columbus, Ohio: *National Regulatory Research Institute*, September 1991

“Telecommunications Regulation and Infrastructure Development: Alternative Models for the Public/Private Partnership”

Prepared for the Economic Symposium of the International Telecommunications Union Europe 7'clr.com '92 Conference. Budapest, Hungary, October 15, 1992.

“Efficient Infrastructure Development and the Local Telephone Company's Role in Competitive Industry Environment” *Presented at the Twenty-Fourth Annual Conference, Institute of Public Utilities, Graduate School of Business, Michigan State University, “Shifting Boundaries between Regulation and Competition in Telecommunications and Energy”, Williamsburg, VA, December 1992.*

“Measurement of Telecommunications Productivity: Methods, Applications and Limitations” (with Françoise M. Clottes)

Presented at Organisation for Economic Cooperation and Development, Working Party on Telecommunication and Information Services Policies. '93 Conference "Defining Performance Indicators for Competitive Telecommunications Markets", Paris, France, February 8-9, 1993.

“Telecommunications Investment and Economic Development: Achieving efficiency and balance among competing public policy and stakeholder interests”

Presented at the 105th Annual Convention and Regulatory Symposium, National Association of Regulatory Utility Commissioners, New York, November 18, 1993.

“The Potential for Competition in the Market for Local Telephone Services” (with David N. Townsend and Paul S. Keller)

Presented at the Organization for Economic Cooperation and Development Workshop on Telecommunication Infrastructure Competition, December 6-7, 1993.

“Market Failure in Open Telecommunications Networks: Defining the new natural monopoly,” *Utilities Policy*, Vol. 4, No. 1, January 1994.

The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers, (with Susan M. Gately, et al) a report prepared by ETI and Hatfield Associates, Inc. for AT&T, MCI and CompTel, February 1994.

Commercially Feasible Resale of Local Telecommunications Services: An Essential Step in the Transition to Effective Local Competition, (Susan M Gately, et al) a report prepared by ETI for AT&T, July 1995.

"Efficient Public Investment in Telecommunications Infrastructure"
Land Economics, Vol 71, No.3, August 1995.

Funding Universal Service: Maximizing Penetration and Efficiency in a Competitive Local Service Environment, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shephard, A Time Warner Communications Policy White Paper, September 1995.

Stranded Investment and the New Regulatory Bargain, Lee L. Selwyn with Susan M. Baldwin, under the direction of Donald Shephard, A Time Warner Communications Policy White Paper, September 1995

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," in *Networks, Infrastructure, and the New Task for Regulation*, by Werner Sichel and Donald L. Alexander, eds., University of Michigan Press, 1996.

Establishing Effective Local Exchange Competition: A Recommended Approach Based Upon an Analysis of the United States Experience. Lee L. Selwyn, paper prepared for the Canadian Cable Television Association and filed as evidence in Telecom Public Notice CRTC 95-96, Local Interconnection and Network Component, January 26, 1996.

The Cost of Universal Service, A Critical Assessment of the Benchmark Cost Model. Susan M. Baldwin with Lee L. Selwyn, a report prepared by Economics and Technology, Inc. on behalf of the National Cable Television Association and submitted with Comments in FCC Docket No. CC-96-45, April 1996.

Economic Considerations in the Evaluation of Alternative Digital Television Proposals, Lee L. Selwyn (as Economic Consultant), paper prepared for the Computer Industry Coalition on Advanced Television Service, filed with comments in FCC MM Docket No. 87-268, In the Matter of Advanced Television Systems and Their Impact Upon the Existing Television Broadcast Service, July 11, 1996.

Assessing Incumbent LEC Claims to Special Revenue Recovery Mechanisms: Revenue opportunities, market assessments, and further empirical analysis of the "Gap" between embedded and forward-looking costs, Patricia D. Kravtin and Lee L. Selwyn, In the Matter of Access Charge Reform, in CC Docket No. 96-262, January 29, 1997.

The Use of Forward-Looking Economic Cost Proxy Models, Susan M. Baldwin and Lee L. Selwyn, Economics and Technology, Inc., February 1997.

The Effect of Internet Use on The Nation's Telephone Network, Lee L. Selwyn and Joseph W. Laszlo, a report prepared for the Internet Access Coalition, July 22, 1997.

Regulatory Treatment of ILEC Operations Support Systems Costs, Lee L. Selwyn, Economics and Technology, Inc., September 1997.

The "Connecticut Experience" with Telecommunications Competition: A Case in Getting it Wrong, Lee L. Selwyn, Helen E. Golding and Susan M. Gately, Economics and Technology, Inc., February 1998.

Where Have All The Numbers Gone?: Long-term Area Code Relief Policies and the Need for Short-term Reform, prepared by Economics and Technology, Inc. for the Ad Hoc Telecommunications Users Committee, International Communications Association, March 1998, second edition, June 2000.

Hokrn Promises: A Review of Bell Atlantic-Pennsylvania's Performance Under Chapter 30, Lee L. Selwyn, Sonia N. Jorge and Patricia D. Kravtin, Economics and Technology, Inc., June 1998.

Building A Broadband America: The Competitive Keys to the Future of the Internet, Lee L. Selwyn, Patricia D. Kravtin and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, May 1999.

Bringing Broadband to Rural America: Investment and Innovation In the Wake of the Telecom Act, Lee L. Selwyn, Scott C. Lundquist and Scott A. Coleman, a report prepared for the Competitive Broadband Coalition, September 1999.

Bringing Local Telephone Competition to Massachusetts, Lee L. Selwyn and Helen E. Golding, prepared for The Massachusetts Coalition for Competitive Phone Service, January 2000.

Subsidizing the Hell Monopolies: How Government Welfare Programs are Undermining Telecommunications Competition, Lee L. Selwyn, April 2002.

Dr. Selwyn has been an invited **speaker** at **numerous seminars and** conferences on telecommunications regulation **and** policy, including **meetings and workshops** sponsored **by** the National Telecommunications and Information Administration, the National Association of Regulatory Utility Commissioners, the **U.S.** General Services Administration, **the** Institute of **Public** Utilities at Michigan State University. **the** National Regulatory Research Institute at Ohio State University, **the** Harvard University Program on Information Resources Policy, **the** Columbia University **Institute for Tele-Information, the International** Communications Association, the **Tele-**Communications Association, the Western Conference of Public Service Commissioners, at **the** New England, **Mid-America, Southern** and Western **regional PUC/PSC** conferences, as **well** as at **numerous** conferences and workshops sponsored by individual **regulatory** agencies.

Attachment 2

Installation and Repair Intervals (Interexchange Access) — Annual

43 05 Table 1a Installation and Repair Intervals (Interexchange Acc) - Annual

Company Name	Row Title	All Special Access					
		1996	1997	1998	1999	2000	2001
BELLSOUTH	# Total Number of Orders or Circuits	86,000	106,649	145,185	127,801	178,631	194,276
BELLSOUTH	# Missed for Customer Reasons (MCR)		0	34,981	28,175	34,877	41,854
BELLSOUTH	% Commitments Met	89.18	88.46	85.14	85.12	89.66	96.27
BELLSOUTH	Average Interval (in days)	13.2	14	14.8	15.9	16.3	17.5
BELLSOUTH	# Total Trouble Reports	68,849	69,643	77,198	80,155	97,705	130,805
BELLSOUTH	% Trouble Reports	80%	65%	53%	63%	55%	67%
BELLSOUTH	Average Interval (in hours)	3.3	3.3	3.7	4.4	4.6	3.4
QWEST	# Total Number of Orders or Circuits	99,884	162,381	212,043	178,794	178,187	129,566
QWEST	# Missed for Customer Reasons (MCR)		0	27,537	70,210	87,796	60,660
QWEST	% Commitments Met	79.51	81.94	88.65	83.97	90.71	95.03
QWEST	Average Interval (in days)	14.2	20.8	22.8	23.6	21.9	15.4
QWEST	# Total Trouble Reports	89,302	96,531	95,603	111,773	120,439	120,756
QWEST	% Trouble Reports	89%	59%	45%	63%	68%	93%
QWEST	Average Interval (in hours)	5.2	3.4	4.6	4.4	3.4	2.7
SOUTHWESTERN	# Total Number of Orders or Circuits	50,727	62,966	56,419	43,594	34,917	136,614
SOUTHWESTERN	# Missed for Customer Reasons (MCR)		0	9,004	8,975	7,200	22,784
SOUTHWESTERN	% Commitments Met	80.9	80.1	97.41	97.02	94.32	86.84
SOUTHWESTERN	Average Interval (in days)	0	0	0	0	0	13.9
SOUTHWESTERN	# Total Trouble Reports	68,576	65,514	93,092	91,822	122,473	151,224
SOUTHWESTERN	% Trouble Reports	135%	104%	165%	211%	351%	111%
SOUTHWESTERN	Average Interval (in hours)	2.1	2.1	2.2	2.7	2.6	4.7
PACIFIC TELESIS	# Total Number of Orders or Circuits	58,419	66,370	59,142	135,676	80,737	90,032
PACIFIC TELESIS	# Missed for Customer Reasons (MCR)		0	15,127	24,078	16,795	13,895
PACIFIC TELESIS	% Commitments Met	93.63	89.4	89.31	74.68	69.53	74.63
PACIFIC TELESIS	Average Interval (in days)	22.6	20.8	20.1	22.3	37.3	20.7
PACIFIC TELESIS	# Total Trouble Reports	63,809	46,055	26,488	104,420	59,015	69,134
PACIFIC TELESIS	% Trouble Reports	109%	69%	45%	77%	73%	77%
PACIFIC TELESIS	Average Interval (in hours)	4.7	5	4.6	4.3	4.5	3.9
AMERITECH	# Total Number of Orders or Circuits	73,555	80,653	113,889	132,578	544,774	612,019
AMERITECH	# Missed for Customer Reasons (MCR)			21,919	20,257	36,386	26,294
AMERITECH	% Commitments Met	87.9	92.5	93.91	93.61	88.01	92.18
AMERITECH	Average Interval (in days)	19	13.1	14.6	15.7	15.6	15.3
AMERITECH	# Total Trouble Reports	41,196	40,314	40,907	31,548	28,633	64,533
AMERITECH	% Trouble Reports	56%	50%	36%	24%	5%	11%
AMERITECH	Average Interval (in hours)	3.7	3.1	3.1	3	2.9	5.8
BELL ATLANTIC	# Total Number of Orders or Circuits	73,660	246,767	236,655	208,399	206,146	207,098
BELL ATLANTIC	# Missed for Customer Reasons (MCR)		12,090	53,606	50,338	48,357	49,028
BELL ATLANTIC	% Commitments Met	77.53	96.53	94.45	84.71	82	81.19
BELL ATLANTIC	Average Interval (in days)	29.2	13	20.5	17.7	23.6	15.6
BELL ATLANTIC	# Total Trouble Reports	22,293	113,267	80,461	94,454	89,218	142,218
BELL ATLANTIC	% Trouble Reports	30%	46%	34%	45%	43%	69%
BELL ATLANTIC	Average Interval (in hours)	10.7	2.6	2.8	4.1	5.1	6
GTE CORP.	# Total Number of Orders or Circuits	57,376	60,495	47,972	56,157	65,916	83,314
GTE CORP.	# Missed for Customer Reasons (MCR)		0	16,980	28,706	22,049	13,214
GTE CORP.	% Commitments Met	92.26	89.7	89.55	90.26	84.35	96.01
GTE CORP.	Average Interval (in days)	11.52	13	21.1	21.3	28.3	22.7
GTE CORP.	# Total Trouble Reports	67,702	70,406	75,550	79,870	81,840	124,714
GTE CORP.	% Trouble Reports	118%	116%	157%	142%	124%	150%
GTE CORP.	Average Interval (in hours)	9	7	7.9	8.4	10.2	9.2
TOTAL RBOC	# Total Number of Orders or Circuits	499,621	786,281	871,305	882,999	1,289,308	1,452,919
TOTAL RBOC	# Special Access Lines	22,067,774	26,260,133	33,999,156	48,708,169	65,451,767	79,470,270
TOTAL RBOC	# Total Trouble Reports	421,727	501,730	489,299	594,042	599,323	803,384
TOTAL RBOC	% Trouble Reports/Orders or Circuits	84%	64%	56%	67%	46%	55%
TOTAL RBOC	% Trouble Reports/Lines	1.91%	1.91%	1.44%	1.22%	0.92%	1.01%
TOTAL RBOC WITHOUT AMERITECH:							
	# Total Number of Orders or Circuits	426,066	705,628	757,416	750,421	744,534	840,900
	# Total Trouble Reports	380,531	461,416	448,392	562,494	570,690	738,851
	% Trouble Reports	89%	65%	59%	75%	77%	88%

Wholesale Revenue Profile

Over \$9B in 2002 revenue

**Special
Access**

36.1%

(\$3.25B)

Billing

International

5.5%

(\$0.5B)

Resale /

Collocation

13.9%

(\$1.25B)

Unbundled

16.7%

Elements

(\$1.50B)

Lower

**MSAs With Full Pricing Flexibility for Special Access
(Phase II Flexibility)**

AKRON OH	MILWAUKEE-WAUKESHA WI
ALBUQUERQUE NM	NEWARK NJ
ANCHORAGE AK	NORFOLK-VIRGINIA BEACH-NEWPORT NEWS (VA-NC) - VA
AUSTIN-SAN MARCOS TX	OKLAHOMA CITY OK
BELLINGHAM WA	OLYMPIA WA
BINGHAMTON NY	OMAHA (NE-IA) - NE
BOISE CITY ID	OMAHA (NE-IA) - IA
CHAMPAIGN-URBANA IL	PARKERSBURG-MARIETTA (WV-OH) - WV
CHARLESTON WV	PHOENIX-MESA AZ
COLORADO SPRINGS CO	PORTLAND-VANCOUVER (OR-WA) - WA
CORPUS CHRISTI TX	PORTLAND-VANCOUVER (OR-WA) - OR
DAVENPORT-MOLINE-ROCK ISLAND (IA-IL) - IA	READING (PA)
DECATUR IL	RICHMOND-PETERSBURG VA
DES MOINES IA	ROANOKE (VA)
DOVER DE	ROCHESTER (MN)
DUBUQUE IA	ROCKFORD (IL)
EUGENE-SPRINGFIELD OR	SALT LAKE CITY-OGDEN UT
FARGO-MOORHEAD (ND-MN) - MN	SAN ANGELO (TX)
FARGO-MOORHEAD (ND-MN) - ND	SAN ANTONIO TX
FORT WAYNE IN	SAN JOSE CA
GRAND RAPIDS-MUSKEGON-HOLLAND MI	SPOKANE WA
HAGERSTOWN MD	SPRINGFIELD IL
HOUSTON TX	ST. CLOUD (MN)
IOWA CITY (IA)	ST. LOUIS (MO-IL) - MO
KANSAS CITY (MO-KS) - KS	STAMFORD-NORWALK CT
KANSAS CITY (MO-KS) - MO	TOPEKA KS
LITTLE ROCK-NORTH LITTLE ROCK AR	TULSA (OK)
LYNCHBURG (VA)	VINELAND-MILLVILLE-BRIDGETON (NJ)
MADISON WI	WILLIAMSPORT PA
MEDFORD-ASHLAND OR	WILMINGTON-NEWARK (DE-MD) - DE
MEDFORD-ASHLAND (OR)	WILMINGTON-NEWARK (DE-MD) - MD
	YAKIMA (WA)

**MSAs with Partial Pricing Flexibility for Special Access
(Phase I)**

ALBANY-SCHENECTADY-TROY NY
ALLENTOWN-BETHLEHEM-EASTON PA
ALTOONA(PA)
AMARILLO TX
ATLANTA GA
BALTIMORE MD
BATON ROUGE(LA)
BILOXI-GULFPORT-PASCAGOULA(MS)
BOSTON (MA-NH) - MA
BOSTON(MA-NH) - NH
BRIDGEPORT CT
BUFFALO-NIAGARA FALLS NY
BURLINGTON(VT)
CHARLOTTE-GASTONIA-ROCK HILL (NC-SC) -NC
CHATTANOOGA (TN-GA) .TN
CHICAGO IL
CINCINNATI (OH-KY-IN) - OH
COLUMBUS OH
DALLAS TX
DAYTONA BEACH(FL)
DAYTON-SPRINGFIELD OH
DENVER CO
DETROIT MI

ERIE(PA)
EVANSVILLE-HENDERSON(IN-KY)- IN
FORT COLLINS-LOVELAND(CO)
FORT WORTH-ARLINGTON TX
GAINESVILLE FL
GREELEY(CO)
GREENSBORO--WINSTON-SALEM--HIGH POINT NC
HARRISBURG-LEBANON-CARLISLE(PA)
HARTFORD CT
HONOLULU HI
HUNTINGTON-ASHLAND(WV-KY-OH) - WV
INDIANAPOLIS IN
JACKSON(MS)
JACKSONVILLE FL
KALAMAZOO-BATTLE CREEK MI
KNOXVILLE TN
LAKE CHARLES(LA)
LAKELAND-WINTER HAVEN FL
LANCASTER(PA)
LOS ANGELES-LONG BEACH CA
LOUISVILLE (KY-IN) -KY
LUBBOCK(TX)
MANCHESTER (NH) .NH

MELBOURNE-TITUSVILLE-PALM BAY FL
MEMPHIS (TN-AR-MS)- TN
MIAMI FL
MINNEAPOLIS-ST PAUL (MN-WI) - MN
MONROE(LA)
MONTGOMERY(AL)
NASHVILLE TN
NEW YORK NY
NORFOLK-VIRGINIA BEACH-NEWPORT NEWS(VA-NC) NC
ORLANDO FL
PENSACOLA(FL)
PHILADELPHIA (PA-NJ) - NJ
PHILADELPHIA (PA-NJ) -PA
PITTSBURGH PA
PORTLAND(ME)
PORTSMOUTH-ROCHESTER (NH-ME) .NH
PORTSMOUTH-ROCHESTER(NH-ME) . ME
PROVIDENCE-FALL RIVER-WARWICK(RI-MA) - RI
PROVO-OREM UT
PUEBLO(CO)
RALEIGH-DURHAM-CHAPEL HILL(NC)
SACRAMENTO CA
SALEM OR

MSAs with Partial Pricing Flexibility for Special Access (Phase I)

SAN DIEGO CA
SAN FRANCISCO CA
SANTA BARBARA-SANTAMARIA-LOMPOC(CA)
SARASOTA-BRADENTONFL
SAVANNAH(GA)
SCRANTON--WILKES-BARRE--HAZLETON(PA)
SEATTLE-BELLEVUE-EVERETT WA
SHREVEPORT-BOSSIERCITY(LA)
SIOUX CITY IA-NE
SIOUX CITY(IA-NE) -NE
SPRINGFIELD MA
SPRINGFIELD MO
STATE COLLEGE(PA)
SYRACUSE(NY)
TACOMA WA
TAMPA-ST. PETERSBURG-CLEARWATER FL
TOLEDO OH
TUCSON AZ
WASHINGTON(DC-MD-VA-WV) - VA
WASHINGTON (DC-MD-VA-WV) -MD
WASHINGTON DC-MD-VA-WV - DC PROPER
WATERLOO-CEDAR FALLS(IA)
WEST PALM BEACH-BOCARATON FL
WILMINGTON NC
WORCESTER(MA-CT) - MA

MSAs Without Pricing Flexibility

KENOSHA WI
 KILLEEN-TEMPLE(TX)
 KOKOMO(IN)
 LA CROSSE(WI-MN)
 LAFAYETTE LA
 LAFAYETTE(IN)
 LANSING-EAST LANSING MI
 LAREDO(TX)
 LAS CRUCES(NM)
 LAS VEGAS NV-AZ
 LAWRENCE MA-NH
 LAWRENCE(KS)
 LAWTON(OK)
 LEWISTON-AUBURN(ME)
 LEXINGTON KY
 LIMA OH
 LINCOLN(NE)
 LONGVIEW-MARSHALL TX
 LOUISVILLE(KY-IN)
 LOWELL MA-NH
 MACON GA
 MANSFIELD(OH)
 MCALLEN-EDINBURG-MISSION(TX)
 MEMPHIS TN-AR-MS
 MERCED(CA)
 MIDDLESEX-SOMERSET-HUNTERDON NJ
 MINNEAPOLIS-ST. PAUL(MN-WI)
 MOBILE AL
 MODESTO CA
 MONMOUTH-OCEAN NJ
 MUNCIE(IN)
 MYRTLE BEACH(SC)
 NAPLES(FL)
 NASHUA NH
 NASSAU-SUFFOLK NY
 NEW BEDFORD(MA)
 NEW HAVEN-MERIDEN CT
 NEW LONDON-NORWICH(CT-RI)
 NEW ORLEANS(LA)
 NEWBURGH(NY-PA)
 OAKLAND CA

OCALA(FL)
 ODESSA-MIDLAND(TX)
 ORANGE COUNTY CA
 OWENSBORO(KY)
 PANAMA CITY(FL)
 PARKERSBURG-MARIETTA(WV-OH)
 PEORIA-PEKIN(IL)
 PINE BLUFF(AR)
 PITTSFIELD(MA)
 POCATELLO(ID)
 PROVIDENCE-FALL RIVER-WARWICK(RI-MA)
 PUNTA GORDA(FL)
 RACINE WI
 RAPID CITY(SD)
 REDDING(CA)
 RENO NV
 RICHLAND-KENNEWICK-PASCO(WA)
 RIVERSIDE-SAN BERNARDINO CA
 ROCHESTER NY
 ROCKY MOUNT(NC)
 SAGINAW-BAY CITY-MIDLAND MI
 SALEM(OR)
 SALINAS CA
 SAN LUIS OBISPO-ATASCADERO-PASO ROBLES(CA)
 SANTA CRUZ-WATSONVILLE(CA)
 SANTA FE(NM)
 SANTA ROSA CA
 SAVANNAH(GA)
 SHARON(PA)
 SHEBOYGAN(WI)
 SHERMAN-DENISON(TX)
 SIOUX CITY(IA-NE)
 SIOUX FALLS(SD)
 SOUTH BEND IN
 SPOKANE(WA)
 ST. JOSEPH(MO)
 ST. LOUIS MO-IL
 STEUBENVILLE-WEIRTON OH-WV
 STOCKTON-LODI CA
 SUMTER(SC)
 TALLAHASSEE FL

TERRE HAUTE IN
 TEXARKANA(TX-AR)
 TRENTON NJ
 TUSCALOOSA(AL)
 TYLER(TX)
 UTICA-ROME(NY)
 VENTURA-CA
 VENTURA-CA
 VENTURA-CA
 VENTURA-CA
 VENTURA-CA
 VICTORIA(TX)
 VISALIA-TULARE-PORTERVILLE(CA)
 WACO TX
 WASHINGTON(DC-MD-VA-WV)
 WATERBURY CT
 WAUSAU(WI)
 WHEELING WV-OH
 WICHITA FALLS(TX)
 WICHITA KS
 YOLO(CA)
 YORK(PA)
 YOUNGSTOWN-WARREN OH
 YUBA CITY(CA)
 YUMA(AZ)